

GESTURE BASED NAVIGATION OF A HANDHELD USER INTERFACE

ABSTRACT

A motion controlled handheld device includes a display having a viewable surface and operable to generate a current image. The device includes a motion detection module operable to detect motion of the device within three dimensions and 5 to identify components of the motion in relation to the viewable surface. The device also includes a gesture database comprising a plurality of gestures, each gesture defined by a motion of the device with respect to a first position of the device. The gestures comprise at least four planar gestures each defined by a motion vector generally aligned in parallel with the viewable surface. The device includes a gesture 10 mapping database mapping each of the gestures to a corresponding command, the gesture mapping database mapping each of the four planar gestures to a corresponding grid navigation command. The device also includes a motion response module operable to identify a matching one of the planar gestures based on the motion and to determine the corresponding one of the grid navigation commands based on the 15 identified planar gesture and a display control module operable to logically parse a viewable image into a plurality of grid sections, to set one of the grid sections as the current image, and to set another one of the grid sections as the current image in response to the determined grid navigation command.